

even injuring growth as do some other anesthetics with the potato. In work of this kind one should be very sure that the gases used carry no other injurious gases.—WM. CROCKER.

Modification of unit characters.—An epoch in the perennial controversy between “mutationists” and “selectionists” is marked by CASTLE’S²⁰ shift from the latter to the former school. This investigator has previously held a leading place among “selectionists,” with his modification by selection of the hooded character of rats. His change in point of view has been effected mainly by some of his own results. The cross between his plus race (+3.73) of hooded rats and a wild race brought a reduction in the grade of the hooded character as it appeared in the extracted hooded F₂ young. Repeated recrossing of these extracted individuals with the wild race finally resulted in extracted hooded rats of the grade +3.04. CASTLE concluded that the hooded character had been modified to this degree by its successive contacts with the germ plasm of the wild race. More recently he crossed his minus race (−2.63) with the same wild race. Repeated F₂ extractions showed successively the grades −0.38, +1.01, +2.55, and one family reached +3.05. These results indicate clearly that the hooded character in the plus and minus races are identical, only the multiple modifying factors differing. Repeated crosses with the wild race eventually produced hooded individuals whose quota of modifying factors approximated that of the wild race, evidently represented by a grade of +3.04 or +3.05. Consistent with the idea of a single unit for the hooded character and multiple modifying factors, the successive hooded populations that were extracted showed a decreasing degree of variability.—M. C. COULTER.

Rainfall efficiency.—The well known fact that plant foliage intercepts a considerable amount of the rainfall has been emphasized recently by MCLEAN²¹ and others. A decidedly valuable contribution to the subject is represented by the extensive data of HORTON,²² who has shown that the average observed interception during the summer of 1918 was 40 per cent of the precipitation. This loss ranges from 25 per cent for rains of long duration to 100 per cent for light showers, and seems to be nearly the same for most broad-leaved trees during the summer. These interception losses are greater for needle-leaved trees than for broad-leaved ones. Although the data are still insufficient to make an accurate comparison of the losses occurring at different seasons of the year, it is clear that since light showers are most frequent during the summer season the losses will be greatest during such a period, or in other

²⁰ CASTLE, W. E., Piebald rats and the theory of genes. *Proc. Nat. Acad. Sci.* 5:126-130. *fig. 1.* 1919.

²¹ MCLEAN, R. C., Studies in the ecology of tropical rain-forest. *Jour. Ecol.* 7:121-172. 1919.

²² HORTON, R. E., Rainfall interception. *Mo. Weather Rev.* 47:603-623. *figs. 17.* 1919.